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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,067	04/24/2006	Ryuichiro Amano	DK-US065040	4109

22919 7590 12/01/2010

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EXAMINER	
ANDREWS, MICHAEL	
ART UNIT	PAPER NUMBER
2834	
MAIL DATE	DELIVERY MODE
12/01/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/577,067	AMANO, RYUICHIRO	
	Examiner	Art Unit	
	MICHAEL ANDREWS	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 October 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is responsive to the Applicant's communication filed October 25, 2010. In virtue of this communication and the amendment concurrently filed:

- claims 2, 4, 6, 9-10, 12, and 15-16 were previously pending;
- claims 2, 4, 6, 9-10, 12, and 15-16 were cancelled by the amendment;
- claims 17-28 were added by the amendment; and thus
- claims 17-28 are now pending in the instant application.

Response to Arguments

1. Applicant's arguments filed October 25, 2010 have been fully considered but they are not persuasive.

The Applicant's first argument (page 9, lines 3-11 of the Remarks) alleges that Miyawaki does not disclose the claimed power wire. Miyawaki does disclose a power wire [u, v, w] having a first portion with an end connected to another end of the crossover wire (figure 2; the crossover wire extends from U1 to u), and a second portion with an end connected to another end of the first portion (figures 2-3) and another end connected to an end of the second tooth winding portion [U2] (figure 2; the power wire [u] connects the crossover wire, extending from U1 to u, to the second winding portion [U2]). Thus, this argument is unpersuasive.

The Applicant's second argument (page 10, lines 1-15 of the Remarks) alleges that neither Miyawaki nor Fujita disclose all the parts of the winding defining a seamless, continuous line. Miyawaki discloses a winding [U, V, W] comprising the

power wire [u, v, w], and Fujita discloses a winding [18] defining a seamless, continuous line (figure 8; [0130], lines 1-5; [0131], lines 6-7). Thus, since no argument is presented against the combination of references, and all claim limitations are disclosed by the references, this argument is also unpersuasive.

The Applicant's third argument (page 10, lines 16-26 of the Remarks) alleges that the limitation of the winding "defining a seamless, continuous line" is supported by the original disclosure. Reference is made to figures 4 and 5, but the descriptions of those figures do not mention anything relating to a seamless/continuous line, and figure 4 distinctly shows nodes at the power and neutral ends of each wire, implying a discontinuity. Further reference is made to paragraph [0023], but no text is specifically cited as supporting this limitation. Contrary to the argument presented, paragraph [0023] explicitly states that one winding portion is "connected to" the neutral wire, which necessitates the tooth winding portion and the neutral wire being separate wires, not a seamless, continuous line. Thus, this argument is unpersuasive and the "new matter" rejection is maintained.

The Applicant's fourth argument (page 11, lines 1-16 of the Remarks) alleges that the new dependent claims contain further allowable subject matter. No specific claim language is pointed to, however, and therefore this argument is also unpersuasive.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 17-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The newly added limitation of claim 17, "the neutral wire, the first tooth winding portion, the crossover wire, the power wire, the second tooth winding portion of each winding defining a seamless, continuous line", was never explicitly stated in the original disclosure, nor was it implied in the specification or the figures.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 17-24 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyawaki et al. (JP 2003-134716), hereinafter referred to as "Miyawaki", in view of Fujita et al. (US 2002/0043886 A1), hereinafter referred to as "Fujita".

With regard to claim 17, Miyawaki discloses a stator [10] of a motor ([0002] and figures 1-6) comprising:

a stator core [11] having a plurality of teeth [12] ([0007] and figure 3), said plurality of teeth [12] including at least a first tooth [12a] and a second tooth [12d] radially opposed to each other (figures 1-3);

an insulator [14] ([0008] and figure 3); and

a winding [U, V, W] with part of the winding [U1, U2] being wound about the first [12a] and second teeth [12d] of the stator core [11] ([0008] and figures 1-3), with the insulator [14] disposed between the stator core [11] and the winding [U, V, W] (figure 5), said winding [U, V, W] including:

a first tooth winding portion [U1] and a second tooth winding portion [U2] wound about the first tooth [12a] and the second tooth [12d] (figure 3), respectively,

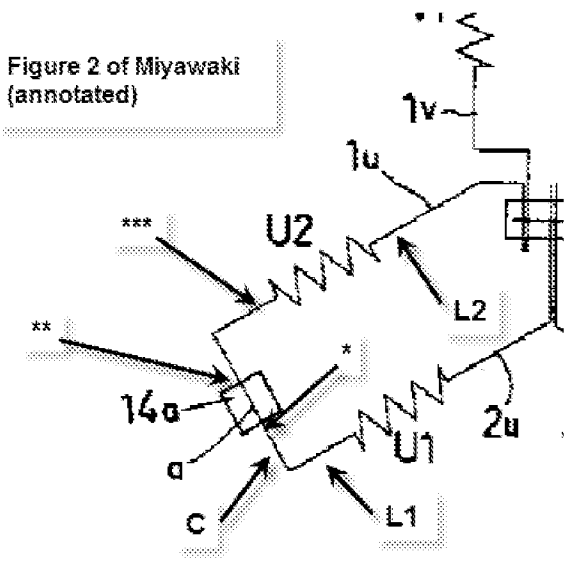
a first neutral wire [2u] connected to an end of the first tooth winding portion [U1] (figure 2; [0008]),

a first lead-out wire [L1] extending from another end of the first tooth winding portion [U1] (see annotated figure 2; below),

a crossover wire [C] having one end connected to the first lead-out wire [L1] and extending to a position which is radially outside (figure 3) of the second tooth winding portion [U2] at which the crossover wire [C] is on the second tooth winding portion (annotated figure 2; below),

a power wire [u] having a first portion with an end [*] connected to another end of the crossover wire [C], and a second portion with an end connected to another end [**]

of the first portion (the first and second portions are parts of a single wire, [u]) and another end [***] connected to an end of the second tooth winding portion [U2] (see annotated figure 2; right),



a second lead-out wire [L2] extending from another end of the second tooth winding portion [U2], and

a second neutral wire [1u] connected to the second lead-out wire [L2],

the insulator [14] including a plurality of lead-out guide portions [14a/b/c/d] with each of the first [L1] and second [L2] lead-out wires being drawn out through one of the lead-out guide portions from a corresponding one of the tooth winding portions [U1, U2] of the winding [U, V, W] (figure 3; the first lead-out wire is drawn out through 14a while the second is drawn out through 14d).

Except that Miyawaki does not expressly disclose the first neutral wire [2u], the first tooth winding portion [U1], the first lead-out wire [14a], the crossover wire [figures 2-3; the crossover wires are those extending from U2 to u, from u to U1, from V1 to v, etc.], the power wire [u, v, w], the second tooth winding portion [U2], the second lead-out wire [14b], and the second neutral wire [1u] of each winding [U, V, W] defining a seamless, continuous line.

Fujita discloses a stator comprising a stator core [17] having a plurality of teeth (figure 3) and a plurality of windings [18] wound around the teeth of the stator core [17],

wherein the winding [18] defines a seamless, continuous line (figure 8; [0130], lines 1-5; [0131], lines 6-7).

It would have been obvious to one of ordinary skill in the art when the invention was made to implement the winding of Miyawaki by forming it from a single, continuous wire as taught by Fujita, for reducing the axial height thereof, since Fujita teaches that reducing the axial height increases the coils radius of curvature which reduces contact stresses and prevents damage to the coil ([0131], lines 7-13).

With regard to claim 18, the combination of Miyawaki and Fujita discloses the stator according to claim 17, as stated above, wherein each of the lead-out guide portions [14a/b/c] comprises a groove (see annotated figure 6 of Miyawaki) provided adjacent to a periphery of a corresponding one of the first and second tooth winding portions [13a-13f] (see figure 3 of Miyawaki).

With regard to claim 19, the combination of Miyawaki and Fujita discloses the stator according to claim 18, as stated above, wherein the grooves of the lead out guide portions [14a/b/c] are circumferentially spaced from each other (figure 6 of Miyawaki).

With regard to claim 20, the combination of Miyawaki and Fujita discloses the stator according to claim 18, as stated above, wherein the stator core [10] includes a core main body [11] with the teeth [12] extending radially inwardly from the core main body (see [0007] and figure 3 of Miyawaki).

With regard to claim 21, the combination of Miyawaki and Fujita discloses the stator according to claim 20, as stated above, wherein the insulator [14] is provided on

an axial end surface of the core main body [11] (see figure 5) with the lead out guide portions [14a/b/c] formed in an axial end surface of the insulator [14] (see figure 3 of Miyawaki).

With regard to claim 22, the combination of Miyawaki and Fujita discloses the stator according to claim 17, as stated above, wherein the lead out guide portions [14a/b/c] are circumferentially spaced from each other (figure 3 of Miyawaki).

With regard to claim 23, the combination of Miyawaki and Fujita discloses the stator according to claim 17, as stated above, wherein the stator core [10] includes a core main body [11] with the teeth [12] extending radially inwardly from the core main body (see [0007] and figure 3 of Miyawaki).

With regard to claim 24, the combination of Miyawaki and Fujita discloses the stator according to claim 23, as stated above, wherein the insulator [14] is provided on an axial end surface of the core main body [11] (see figure 5) with the lead out guide portions [14a/b/c] formed in an axial end surface of the insulator [14] (see figure 3 of Miyawaki).

With regard to claim 26, the combination of Miyawaki and Fujita discloses the stator according to claim 17, as stated above, wherein the lead out guide portions [14a/b/c] are aligned with circumferential edge portions of the teeth [12] as viewed along radial directions of the lead out guide portions [14a/b/c] (figure 1 of Miyawaki).

With regard to claim 27, the combination of Miyawaki and Fujita discloses the stator according to claim 26, as stated above, wherein the lead out guide portions [14a/b/c] have radially extending center lines that are offset from centers of slots [13] formed between the teeth [12] and the parts of the winding [U1, U2, V1, V2, W1, W2] wound around the teeth [12] (figure 3 of Miyawaki).

With regard to claim 28, the combination of Miyawaki and Fujita discloses the stator according to claim 27, as stated above, wherein the radially extending center lines are offset about 5 degrees from centers of slots [13] formed between the teeth [12] and the parts of the winding [U1, U2, V1, V2, W1, W2] wound around the teeth [12] (figure 3 of Miyawaki; [14b] is shown along line [A] between the center of slot [13c] and the center of tooth [12b]; with six teeth, the angle from the center of the tooth to the center of the slot is 30 degrees; figure 3 shows [14b] to be offset by about one third, ten degrees, of that distance; within the range of “about 5 degrees”).

Allowable Subject Matter

6. Claim 25 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not disclose, in combination with the other claimed limitations, a lead-out guide portion corresponding to the first tooth winding portion of the winding is provided in a corresponding one of the sub-walls of one insulating

member, and a lead-out guide portion corresponding to the second tooth winding portion of the winding is provided in a corresponding one of the sub-walls of the other insulating member.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Andrews whose telephone number is (571)270-7554. The examiner can normally be reached on Monday through Thursday between the hours of 7:30 and 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached at (571)272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quyen Leung/
Supervisory Patent Examiner, Art Unit 2834

/M. A./
Examiner, Art Unit 2834